IN THE CLAIMS:

1. (Currently Amended) A storage system for use in a storage system cluster, the storage system comprising:

a first server and a second server, wherein the second server is a cluster partner to the first server; and

a storage operating system operating on the first server, the storage operating system including a cluster connection manager ~~adapted~~ configured to create, destroy, and maintain one or more communication sessions with ~~a~~ the cluster partner, the cluster connection manager operatively interconnected with a set of cluster connection manager clients, where each cluster connection manager client is a process executing on the storage system, and wherein the cluster connection manger is further configured to create, destroy, and maintain a virtual interface connections between a cluster connection manager client on the first server with a cluster connection manager client on the second server to form a peer process between the cluster connection manager clients.

2. (Original) The storage system of claim 1 wherein one of the set of communication clients comprises a failover monitor.

3. (Original) The storage system of claim 1 wherein one of the set of cluster connection manager clients comprises a non-volatile random access memory shadowing process.

4. (Original) The storage system of claim 1 wherein the cluster connection manager is further adapted to perform connection management operations in response to communications from the connection manager clients.

5. (Original) The storage system of claim 4 wherein the communications comprise an application program interface function call.

6. (Original) The storage system of claim 1 wherein the cluster connection manager is further adapted to load balance the one or more communication sessions over a plurality of cluster interconnect devices.

7. (Original) The storage system of claim 1 wherein the cluster connection manager is further adapted to perform a failover procedure for one or more communication sessions from a failed cluster interconnect device to an operational cluster interconnect device.

8. (Original) The storage system of claim 1 wherein the cluster connection manager is operatively interconnected with a plurality of cluster interconnect devices.

9. (Original) The storage system of claim 1 wherein the storage operating system comprises a plurality of cluster connection managers.

10. (Currently Amended) A storage operating system, executing on a storage system, the storage operating system comprising:

a cluster connection manager ~~adapted~~ configured to manage a set of peer-to-peer connections associated with a set of cluster connection manager clients executing on the storage system, wherein the cluster connection manger is further configured to create, destroy, and maintain a virtual interface connection between a cluster connection man-

ager client on a first server with a cluster connection manager client on a second server to form a peer process between cluster connection manager clients.

11. (Original) The storage operating system of claim 10 wherein the set of cluster connection manager clients comprises a failover monitor.

12. (Original) The storage operating system of claim 10 wherein the cluster connection manager is further adapted to perform load balancing of the set of peer-to-peer connections over a plurality of cluster interconnect devices.

13. (Original) The storage operating system of claim 10 wherein the cluster connection manager is further adapted to failover the set of peer-to-peer connections from a failed cluster interconnect device to an operational cluster interconnect device.

14. (Currently Amended) A method for initiating a peer-to-peer communication session, ~~the method~~ comprising ~~the steps of~~:

creating, using a cluster connection manager executing on a ~~storage system~~first server, an initial connection with a cluster partner on a second server;

exchanging a set of peer connection information;

passing a set of cluster connection manager client information to the cluster partner, wherein the set of cluster connection manager client information includes at least one virtual interface and any memory requirements for each cluster manager client;

creating a set of appropriate communication ports using the set of cluster connection manager client information;

alerting the cluster partner of a ready status; and

alerting a set of cluster connection manager clients that the cluster partner is in a ready state.

15. (Original) The method of claim 14 wherein the set of clients comprises a failover monitor process.

16. (Original) The method of claim 14 wherein the set of peer connection information comprises a version number.

17. (Currently Amended) The method of claim 14 wherein the step of passing a set of client information to the cluster partner further comprises ~~the steps of~~:

collecting, from a set of clients, the set of client information; and

transferring the collected set of client information to the cluster.

18. (Original) The method of claim 17 wherein the client information comprises a number of communication ports required.

19. (Original) The method of claim 17 wherein the set of client information further comprises an amount of memory requested by a particular client.

20. (Currently Amended) The method of claim 14 wherein the step of creating an initial connection further comprises ~~the step of~~ using remote direct memory access primitives to create the initial connection.

21. (Currently Amended) The method of claim 14 wherein the step of creating an initial connection further comprises ~~the step of~~ performing a series of remote direct memory access operations to create the initial connection.

22. (Currently Amended) A method for terminating a peer-to-peer communication session, ~~the method~~ comprising ~~the steps of~~:

alerting, using a cluster connection manager executing on a storage system, a set of clients of an impending termination of the communication session;

closing, by the clients, a set of communication ports associated with the communication session, wherein the set of communication ports comprise a set of virtual interface connections; and

performing an initialization of a peer-to-peer communication session procedure.

23. (Original) The method of claim 22 wherein the set of communication ports comprises a set of virtual interface connections.

24. (Original) The method of claim 22 wherein the set of clients comprises a failover monitor.

25. (Currently Amended) A storage ~~operating system, executing on a storage system, the storage operating system~~ system cluster, comprising:

a first storage system of the storage system cluster, the first storage system having a first disk shelf and a first cluster connection manager to manage data flow from/to an external source to the first disk shelf, wherein the first cluster connection manger is configured to create, destroy, and maintain a virtual interface connections between a cluster

connection manager client on the first storage system with a cluster connection manager client on a second storage system to form a peer process between the cluster connection manager clients;

a second storage system of the storage system cluster, the second storage system having a second disk shelf and a second cluster connection manager to manage data flow from/to an external source to the second disk shelf; and

the first cluster connection manager to shift data flow from/to the first disk shelf to the second disk shelf upon an event condition. ~~a cluster connection manager having means to manage a set of peer-to-peer connections associated with a set of cluster connection manager clients executing on the storage system.~~

26. (Currently Amended) The storage system cluster ~~operating system~~ of claim 25 wherein the event condition is a failed interconnect driver connected the first cluster connection manager~~the set of cluster connection manager clients further comprises a failover monitor~~.

27. (Currently Amended) The storage system cluster ~~operating system~~ of claim 25 wherein the event condition is a load-balancing condition~~the set of cluster connection manager clients further comprises a nonvolatile random access memory shadowing process~~.

28. (Currently Amended) A system configured to manage reliable peer communication among storage systems in a clustered environment, the system comprising:

one or more peer processes executing on each storage system partner; and

a cluster connection manager executing on each storage system partner, the cluster connection manager creating a set of peer-to-peer connections between the one or more peer processes executing on each storage system, wherein the cluster connection

manager is provided to reliably create virtual interface connections between peer processes executing on the storage system partners over a cluster interconnect without requiring a storage operating system executing on each storage system to be fully active or functioning.

29. (Currently Amended) A computer readable medium for initiating a peer-to-peer communication session, the computer readable medium including program instructions executed by a processor for performing the steps of:

creating, using a cluster connection manager executing on a ~~storage system~~ first server, an initial connection with a cluster partner on a second server;

exchanging a set of peer connection information;

passing a set of cluster connection manager client information to the cluster partner, wherein the set of cluster connection manager client information includes at least one virtual interface and any memory requirements for each cluster manager client;

creating a set of appropriate communication ports using the set of cluster connection manager client information;

alerting the cluster partner of a ready status; and

alerting a set of cluster connection manager clients that the cluster partner is in a ready state.

30. (Currently Amended) A computer readable medium for terminating a peer-to-peer communication session, the computer readable medium including program instructions executed by a processor for performing the steps of:

alerting, using a cluster connection manager executing on a storage system, a set of clients of an impending termination of the communication session;

closing, by the clients, a set of communication ports associated with the communication session, wherein the set of communication ports comprise a set of virtual interface connections; and

performing an initialization of a peer-to-peer communication session procedure.

31. (Previously Presented) A method for maintaining a peer-to peer communication, the method comprising:

waiting for an event from a client communicating with a cluster partner to be received by a cluster connection manager executing on a storage operating system;

determining whether the event is a client event; and

in response to determining that the event is a client event, performing the event utilizing the cluster connection manager.

32. (Previously Presented) The method of claim 31, further comprising:

in response to determining that the event was not a client event, alerting a set of clients of an impending termination of the communication session;

closing, by the clients, a set of communication ports associated with the communication session; and

performing an initialization of a peer-to-peer communication session procedure.

33. (Previously Presented) The method of claim 32 wherein the set of communication ports comprises a set of virtual interface connections.

34. (Previously Presented) The method of claim 32 wherein the set of clients comprises a failover monitor.

35. (Previously Presented) The method of claim 31 further comprising monitoring the status of one or more cluster interconnect drivers utilizing the cluster connection manager.

36. (Currently Amended) A computer readable medium for maintaining a peer-to-peer communication session, the computer readable medium including program instructions executed by a processor for performing the steps of:

waiting for an event from a client involved in a communication session to be received by a cluster connection manager executing on a storage operating system;

determining that the event is a client event; and

in response, performing the event utilizing the cluster connection manager.

37. (Previously Presented) A storage operating system, executing on a storage system, the storage operating system comprising:

one or more peer processes executing on each storage system partner;

a plurality of cluster interconnect drivers executing on the storage system; and

one or more cluster connection managers configured to detect a failure of a first cluster interconnect driver and in response to determining the failure of the first cluster interconnect driver, utilize a second cluster interconnect driver to access each storage system partner.

38. (Previously Presented) A storage operating system, executing on a storage system, the storage operating system comprising:

one or more peer processes executing on each storage system partner;

a plurality of cluster interconnect drivers executing on the storage system; and

one or more cluster connection managers configured to detect a high bandwidth load on a first cluster connection manager and in response to detecting a high band width load, utilize a second cluster connection manager to access each storage system partner.